

**WHAT IS CLAIMED IS:**

1. An transmission apparatus four use in an optical subscriber network, the transmission apparatus comprising:

5           an optical line termination to receive transmission stream data, packetizing the received transmission stream data into data packets, and transmitting the data packets as optical signals; and

10           a plurality of optical network units connected to the optical line termination, wherein an optical network unit receives the optical signal transmitted from the optical line termination, converts the optical signal into an electrical signal, extracts transmission stream data from the converted data packet, and switches the transmission stream data to a subscriber.

2. The transmission apparatus as claimed in claim 1, wherein the transmission stream data is multi-program transmission stream data.

15           3. The transmission apparatus as claimed in claim 2, wherein the data link packets are high-level data link control procedure packets.

20           4. The transmission apparatus as claimed in claim 3, wherein the transmission apparatus is used for image data.

5. The transmission apparatus as claimed in claim 1, wherein the optical line termination comprises:

an transmission stream data receiving unit for receiving transmission stream data from an outside;

5 a first buffer to buffer the transmission stream data received in the transmission stream data receiving unit to convert the transmission stream data into an data packet;

a data packet generating unit for generating a data packet, which has a predetermined payload portion, from the transmission stream data stored in the buffer;

10 a control section for controlling the transmission stream data receiving section, the buffer and the data packet generating unit; and

an optical output unit for converting the data packet into an optical signal for transmission.

6. The transmission apparatus as claimed in claim 1, wherein an optical network unit comprises:

an transmission stream data receiving unit for receiving the optical signal from the optical line termination, converting the received optical signal into an electrical signal and outputting an data packet;

20 an transmission stream data extracting unit for receiving the data packet from the transmission stream data receiving unit, removing overhead from the data packet and extracting transmission stream data;

a second buffer for buffering the extracted transmission stream data a control

section for controlling the transmission stream data extracting unit and the buffer; and  
a switching unit for switching the transmission stream data from the second buffer  
to a subscriber.

5           7. The transmission apparatus as claimed in claim 1, wherein second buffer  
continuously outputs the transmission stream data.

8. The transmission apparatus as claimed in claim 6, wherein the switching unit  
includes a plurality of memory having assigned storage areas for each transmission stream  
10 data and subscriber, wherein the storage areas are enabled for subscriber.

9. The transmission apparatus as claimed in claim 6, wherein the subscriber access  
to transmission stream data is based on predetermined requirements of each subscriber.

15           10. The transmission apparatus as claimed in claim 4, wherein the data packet has  
a predetermined size of payload.

11. The transmission apparatus as claimed in claim 5, wherein the data packet has  
a predetermined size of payload.

20           12. The transmission apparatus as claimed claim 6, wherein the data packet has a  
predetermined size of payload.

13. The transmission apparatus as claimed in claim 8, wherein the data packet has a predetermined size of payload.